UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,074	04/04/2001	Mingjie Wang	WANG 5	3882

47396 7590 03/15/2006

HITT GAINES, PC
AGERE SYSTEMS INC.
PO BOX 832570
RICHARDSON, TX 75083

EXAMINER	
MENBERU, BENIYAM	
ART UNIT	**PAPER NUMBER**
2626	

DATE MAILED: 03/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/826,074	WANG, MINGJIE	
	Examiner	Art Unit	
	Beniyam Menberu	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *December 5, 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Response to Arguments

1. Applicant's arguments, see Remarks, filed December 5, 2005, with respect to the rejection(s) of claim(s) Claims 1, 8, and 22 under U.S. Patent No. 4462108 to Miller and claim 15 under U.S. Patent No. 5848346 to Takashiro in view of U.S. Patent No. 4462108 to Miller have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent No. 5412695 to Murata.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1, 2, 4, 5, 8, 9, 11, 12, 22, 23, 25, 26, and 29 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5412695 to Murata.

Regarding claims 1 and 8, Murata discloses a system/method for recovering primary channel operation in a facsimile receiver (column 4, lines 16-40), comprising:

a signal receiver that receives a signal containing first and second points located at first and second angles (column 4, lines 68; column 5, lines 1-4); and

angle determination circuitry that determines one of said first and second angles is an offset angle by which said signal has been rotated (column 9, lines 14-19; lines 38-55).

Regarding claims 2, 9, and 23, Murata teaches all the limitations of claims 1, 8, and 22 respectively. Further Murata discloses the system as recited in Claim 1 wherein about 90° separate said first and second angles (column 5, lines 28-32).

Regarding claims 4, 11, and 25, Murata teaches all the limitations of claims 1, 8, and 22 respectively. Further Murata discloses the system as recited in Claim 1 wherein said angle determination circuitry causes said offset angle to equal said first angle when at least 180° separate said first and second angles (column 7, lines 51-55; column 8, lines 32-52).

Regarding claims 5, 12, and 26, Murata teaches all the limitations of claims 1, 8, and 22 respectively. Further the system as recited in Claim 1 wherein said angle determination circuitry causes said offset angle to equal said second angle when fewer than 180° separate said first and second angles (column 7, lines 51-55; column 8, lines 32-52; column 9, lines 38-55).

Regarding claim 22, Murata discloses an apparatus that determines the difference between a received constellation of signals and an expected constellation of signals (column 1, lines 65-68; column 2, lines 1-10; column 5, lines 57-68), comprising:

a signal receiver that receives a constellation of signals containing first and second points located at first and second angles, respectively (column 4, lines 68; column 5, lines 1-4); and

angle determination circuitry that determines one of said first and second angles is an offset angle by which the first and second points have been rotated from an expected constellation of signals (column 9, lines 14-19; lines 38-55).

Regarding claim 29, Murata teaches all the limitations of claim 22. Further Murata discloses the apparatus as recited in Claim 22 wherein the angle determination circuitry updates an equalizer in the signal receiver as a function of the determined offset angle (column 8, lines 55-68; column 9, lines 1-20).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 3, 10, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5412695 to Murata in view of U.S. Patent No. 5790594 to Peng.

Regarding claims 3, 10, and 24, Murata teaches all the limitations of claims 1, 8, and 22. However Murata does not disclose wherein the system as recited in Claim 1 wherein said signal conforms to International Telecommunications Union Recommendation V.34.

Peng discloses a system and method as recited in claim 1 wherein said signal conforms to International Telecommunications Union Recommendation V.34 (column 2, lines 41-45).

Murata and Peng are combinable because they are in the similar problem area of facsimile communication.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine V.34 communication standard of Peng with the system of Murata to implement V.34 communication standard for facsimile communication.

The motivation to combine the reference is clear because International Telecommunications Union Recommendation V.34 signals are taught by Peng to be of high quality for modem communication (column 1, lines 29-33).

6. Claims 6, 7, 13, 14, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5412695 to Murata in view of U.S. Patent No. 6426946 to Takagi et al.

Regarding claims 6, 13, and 27, Murata teaches all the limitations of claims 1, 8, and 22 respectively. However Murata does not disclose the system as recited in Claim 1 wherein said signal is an S signal.

Takagi et al disclose a system wherein said signal is an S signal (column 8, lines 27-30).

Murata and Takagi et al are combinable because they are in the similar problem area of facsimile communication.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the S signal of Takagi et al with the system of Murata to implement the training signal for the receiver.

The motivation to combine the reference is clear because S signals are used in facsimile communication for training purpose as taught by Takagi et al (column 8, lines 27-30).

Regarding claims 7, 14, and 28, Murata teaches all the limitations of claims 1, 8, and 22 respectively. Takagi et al further disclose the system wherein said angle determination circuitry refines said offset angle based on a subsequent signal (Takagi et al shows that the "S" signal and subsequent signals are used for training and adjusting for the characteristics of the line (column 8, lines 27-34)).

7. Claims 15, 16, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5848346 to Takashiro in view of U.S. Patent No. 5412695 to Murata.

Regarding claim 15, Takashiro discloses a facsimile machine, comprising:

image formation circuitry (column 6, lines 12-24);

telecommunications circuitry, including a facsimile receiver, coupled to said image formation circuitry (column 6, lines 12-24). However Takashiro does not disclose a system, associated with said facsimile receiver, for recovering primary channel operation, including:

a signal receiver that receives a signal containing first and second points located at first and second angles, and

angle determination circuitry that determines one of said first and second angles is an offset angle by which said signal has been rotated.

Murata discloses a system, associated with said facsimile receiver, for recovering primary channel operation, including:

a signal receiver that receives a signal containing first and second points located at first and second angles (column 4, lines 68; column 5, lines 1-4), and

angle determination circuitry that determines one of said first and second angles is an offset angle by which said signal has been rotated (column 9, lines 14-19; lines 38-55).

Takashiro and Murata are combinable because they are in the similar problem area of facsimile communication.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the signal receiver and angle determination circuitry of Murata with the system of Takashiro to implement phase correction in received signals.

The motivation to combine the reference is clear because Murata teaches that the system is useful in removing large offset (column 1, lines 40-64).

Regarding claim 16, Takashiro in view of Murata teaches all the limitations of claim 15. Further Murata discloses the facsimile machine as recited in Claim 15 wherein about 90° separate said first and second angles (column 5, lines 28-32).

Regarding claim 18, Takashiro in view of Murata teach all the limitations of claim 15. Further Murata discloses the facsimile machine as recited in Claim 15 wherein said angle determination circuitry causes said offset angle to equal said first angle when at least 180° separate said first and second angles (column 7, lines 51-55; column 8, lines 32-52).

Regarding claim 19, Takashiro in view of Murata teach all the limitations of claim 15. Further Murata discloses the facsimile machine as recited in Claim 15 wherein said angle determination circuitry causes said offset angle to equal said second angle when fewer than 180° separate said first and second angles (column 7, lines 51-55; column 8, lines 32-52; column 9, lines 38-55).

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5848346 to Takashiro in view of U.S. Patent No. 5412695 to Murata further in view of U.S. Patent No. 5790594 to Peng.

Regarding claim 17, Takashiro in view of Murata teaches all the limitations of claim 15. However Takashiro in view of Murata does not disclose a system and method wherein said signal conforms to International Telecommunications Union Recommendation V.34.

Peng discloses a system and method as recited in claim 1 wherein said signal conforms to International Telecommunications Union Recommendation V.34 (column 2, lines 41-45).

Takashiro, Murata, and Peng are combinable because they are in the similar problem area of facsimile communication.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine V.34 communication standard of Peng with the system of Takashiro in view of Murata to implement V.34 communication standard for facsimile communication.

The motivation to combine the reference is clear because International Telecommunications Union Recommendation V.34 signals are taught by Peng to be of high quality for modem communication (column 1, lines 29-33).

9. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5848346 to Takashiro in view of U.S. Patent No. 5412695 to Murata further in view of U.S. Patent No. 6426946 to Takagi et al.

Regarding claim 20, Takashiro in view of Murata teaches all the limitations of claim 15. However Takashiro in view of Murata does not disclose facsimile machine wherein said signal is an S signal.

Takagi et al disclose a system wherein said signal is an S signal (column 8, lines 27-30).

Takashiro, Murata, and Takagi et al are combinable because they are in the similar problem area of facsimile communication.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the S signal of Takagi et al with the system of Takashiro in view of Murata to implement the training signal for the receiver.

The motivation to combine the reference is clear because S signals are used in facsimile communication for training purpose as taught by Takagi et al (column 8, lines 27-30).

Regarding claim 21, Takashiro in view of Murata teaches all the limitations of claim 15. Further Takagi et al disclose the facsimile machine as recited in Claim 15 wherein said angle determination circuitry refines said offset angle based on a subsequent signal (Takagi et al shows that the "S" signal and subsequent signals are used for training and adjusting for the characteristics of the line (column 8, lines 27-34)).

10. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5412695 to Murata in view of U.S. Patent No. 4462108 to Miller.

Regarding claim 30, Murata teaches all the limitations of claim 22. However Murata does not disclose the apparatus as recited in Claim 22 wherein the angle determination circuitry updates an equalizer applied to incoming data signals based upon the offset angle between the incoming data signals and a set of training signals.

Miller discloses the apparatus as recited in Claim 22 wherein the angle determination circuitry updates an equalizer applied to incoming data signals based upon the offset angle between the incoming data signals and a set of training signals (In Figure 3, reference 72 feeds back indirectly to the adaptive

equalizer 16 through reference 12 and 14. The reference 72 is related to the phase correction as shown in Figure 3. (column 1, lines 33-41; column 5, lines 30-40).

Murata and Miller are combinable because they are in the similar problem area of facsimile communication.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the equalizer updating of Miller with the system of Murata to implement equalizer updating using offset between incoming signal and training signals.

The motivation to combine the reference is clear because Miller teaches that equalizer updating is important for proper receiving of signals (column 1, lines 35-45; column 5, lines 30-40).

Other Prior Art Cited

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 4599732 to LeFever discloses technique for obtaining timing and frequency synchronization.

U.S. Patent No. 6954493 to Noma discloses modem apparatus.

U.S. Patent No. 6687292 to Garcia discloses timing phase acquisition method and device.

U.S. Patent No. 4601044 to Kromer,III et al discloses carrier phase adjustment.

U.S. Patent No. 5949828 to Izumi discloses TDMA system receiver.

U.S. Patent No. 5956374 to Iwamatsu discloses jitter suppressing circuit.

U.S. Patent No. 6728308 to Chu et al discloses extending symbol rates and symbol rate re-negotiation.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beniyam Menberu whose telephone number is (571) 272-7465. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on (571) 272-7471. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (571) 272-2600. The group receptionist number for TC 2600 is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public

PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov/>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner

Beniyam Menberu

BM

03/4/2006

KA Williams

KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER